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concluded by giving a description of the rites and ceremonies used in the worship of Hercules at Gades, intimating that they denoted a purer mode of religious culture than generally obtained in the heathen world.

DONATIONS.

Notes on the United States of North America in 1838, 1839, 1840. 3 Vols. By George Combe, Esq., Hon. M.R.I.A., &c. Presented by the Author.

The Silurian System. By William H. Fitton, Esq. Presented by the Author.

Dublin Metropolitan Police Returns of Persons taken into Custody in 1840. Presented by the Commissioners.

Ordnance Survey of the County of Galway, in 139 sheets. Presented by his Excellency the Lord Lieutenant.

Verhandelingen van het Bataafsch Genootschap der Proefondervindelyke Wysbegeerte te Rotterdam. Vols. I.—XII., and New Series, Vols. I.—VIII. Part I.

A Collection of Temperance Medals. Engraved by J. C. Parkes. Presented by the Artist.

June 28.

SIR WM. R. HAMILTON, LL.D., President, in the Chair.

Mr. Mallet read a paper “On a new Method of raising Ships of War out of Water for the Purpose of Repair.”

Although the author conceived that the objects of the Royal Irish Academy were rather to investigate principles than to apply them in detail, still as any application of these, which proposes to add to our naval power, is of importance, and as on a like subject the Royal Society conferred on Sir R. Seppings their highest reward for his application of diagonal framing to ships, he did not deem it altogether out of place to bring his method of raising ships out of water be-

fore the Academy, with models and drawings to illustrate it. The inventor first gave a rapid description of the several methods of taking ships out of water for repair, which have been in use from the earliest times to the present day, viz., by—

1. Stranding on bilge ways.
2. Careening.
3. The machine called the Camel, invented about 1680.
4. The graving dock.
5. Morton's patent slip.
6. The screw dock.
7. The hydraulic dock.
8. The floating dock of the River Tyne, used at Newcastle.

{ Both comparatively recent American inventions, and only used there.

He then pointed out the several disadvantages to which each of these is severally liable.

These are briefly, in the first case, costliness, tediousness, straining of the ship, and imperfect access to the hull. In the second, great danger and imperfect access to the hull. The *Royal George* was sunk by careening her. In the third case, want of access to the ship—impossibility of exposing the whole hull—straining of the framing, and danger. In the fourth or graving dock, great original outlay ; great labour and loss of time in pumping out water where rise of tide is small ; loss of two or three hours of daylight every day by the sunken position of the ship, and awkwardness in handling long spars or timber ; difficulty of inspection, and unhealthiness of situation to workmen ; and, lastly, rotting of timbers, from the constant damp atmosphere of a sunk or graving dock.

Morton's slip overcomes most of these evils, but has some peculiar to itself. Ships can only come on and go off the slip at high and low water ; hence, in large vessels, the loss of one tide is often the loss of a fortnight ;

it cannot be used in foul weather, or with the tail of the slip in a tideway ; the average length of the inclined plane being about five hundred feet, and the rate of elevation of a ship from three to five feet per minute, the time of taking a ship out of water, including the removal of the cradle, occupies from four to six hours ; and hence, though nominally cheap, this is by loss of time really a dear mode of repair to the ship-owner—the ship lies on an inclined plane, which is inconvenient in hoisting or lowering heavy parts, particularly in steam-ships. The hull is always strained, and new coppering is often found wrinkled, by the ship running off the slip, and receiving unequal support from the water meeting her at an angle to her plane of stable floatation. The vibration of the numerous rollers is also injurious in the same way.

The American screw and hydraulic docks have the advantage, in point of speed, when in use ; but are unsafe for large ships, and awkward in the posture of the ship's hull.

The Newcastle-on-Tyne floating dock possesses all the disadvantages (except original costliness) of the graving dock, and is without the safety of the latter.

The author then explained the nature of his own method, and exhibited it in action by means of a large working model ; without plates it is difficult to describe this combination. The vessel to be raised, floats in over a timber platform of a suitable size laying at the bottom, and by means of two very powerful cabstern cranes, actuated by a small steam engine, and acting on two large flat linked chains, the platform is raised above the surface of the water, bringing up the vessel along with it, and placing her upon a suitable level for the convenience of workmen to get under and round the hull, for which the platform is specially adapted. The two chains spoken of lay horizontally at either side of the platform, and above it, and are armed with rollers at

equal intervals, resting on a hollow iron railway; and from these points of the chains a number of suspending rods proceed to the platform; at each side below the latter, are an equal number of jointed struts or supports; and the nature of the motion is such, that, when the platform is at the bottom, these struts are nearly horizontal, and the suspending rods vertical, and *vice versa* when the platform is at its greatest elevation; hence, the latter is at all times fully and firmly supported.

The combination is such, that power is to the utmost economized, the ratio of the power to the weight increasing as the hull of the vessel leaves the water, and advantage being taken of her own floatage power as long as possible.

The inventor stated, that a fifty gun frigate, with her standing rigging up, could be taken out of water, and laid dry and ready for workmen, in sixteen minutes from the time she came over the platform, by his arrangement, which is equally applicable where there is no tide, (as at Malta, &c.,) as where the rise and fall are considerable. The objects also held in view, and he conceives attained, by his method, are equal strain, and wear and tear (by principle) on all the parts—and hence freedom from risk of accident—durability and facility of repair in the machine itself.

A paper by the Rev. Dr. Hincks, “On the Egyptian *Stèle*, or Tablet,” was read.

Among the Egyptian monuments in museums, there is none more likely to afford information than the stèles, or funeral tablets, which resemble in form the head-stones in our grave-yards, and which appear to have been set up in similar positions. The object of this paper is to describe the parts of which the inscriptions that these tablets contain usually consist, with such observations as may enable a person, who should meet with one of them, to form a judgment as to its age, and as to the importance of its contents.

It commences with some details respecting two tablets